



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/502,810 02/11/00 BRECHER

J 103544.127

EXAMINER

HM12/0316

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Hale and Dorr LLP  
60 State Street  
Boston MA 02109

HARTTER, A  
ART UNIT

PAPER NUMBER

1631  
DATE MAILED:

4  
03/16/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

# Office Action Summary

Application No.

09/502,810

Applicant(s)

BRECHER, JONATHAN S.

Examiner

Hartter

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1631

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 16 March 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

### Detailed Action

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The present title is only directed to a method whereas a method, system, and software are claimed.

Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods beginning with the inverting of the chemical name, does not reasonably provide enablement for methods that lack said inversion. The specification does not enable any person skilled in the art to which it pertains, or which it is most nearly connected, to make the invention commensurate in scope with these claims.

Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized in Ex parte Forman, 230 USPQ 546 (BPAI 1986) and reiterated by the Court of Appeals in In re Wands, 8 USPQ2d 1400 at 1404 (CAFC 1988). The factors to be considered in determining whether undue experimentation is required include: (1) the quantity of experimentation necessary, (2) the amount or direction presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. The Board also stated that although the level of skill in molecular biology is high, the results of experiments in genetic engineering are unpredictable. While all of

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these factors are considered, a sufficient amount for a *prima facie* case are discussed below.

Therefore uninversion is apparently necessary to predictably perform accurate parsing as the next procedure. Please see the instant specification at pages 6-13 where the uninversion process of the chemical name is clearly described. The uninversion step is needed prior to the parsing step as unpredictable naming would result and become problematic during the parsing.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention.

Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized in Ex parte Forman, 230 USPQ 546 (BPAI 1986) and reiterated by the Court of Appeals in In re Wands, 8 USPQ2d 1400 at 1404 (CAFC 1988). The factors to be considered in determining whether undue experimentation is required include: (1) the quantity of experimentation necessary, (2) the amount or direction presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. The Board also stated that although the level of skill in molecular biology is high, the results of experiments in genetic engineering are unpredictable. While all of

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these factors are considered, a sufficient amount for a *prima facie* case are discussed below.

A full consideration of the specification failed to reveal the "conditions" that are associated with the later second "text strings" (claim 2 lines 5-6). Such conditions could have a variety of definitions. Such definitions could include the text strings being portions of the texts strings being broken up into parts. Another possibility is that the conditions include the changes in the protein folding. Definitions could also include changes in the conditions of the ionic state of molecules, such as the addition or removal of hydrogens. The practice of claim 2 is unpredictable without specific guidance as to the practice of said "conditions".

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The basis of the rejection is that the claim, nor any other part of the application, provides the examiner with a dictionary with which to resolve the vagueness as it refers to the nomTokens. It is not clear to the examiner what this term means and therefore a dictionary is required in order to resolve the indefiniteness of Claim 1 in this arena. The dictionary of nomTokens correlates the nomTokens to the fragments through the parsing step. This is achieved through an appendix of nomTokens that are not presented in the claims. Therefore the generic parsing in the claims is not commensurate in scope with the specific parsing steps in the specification.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Ihlenfeldt et al. (J. of Chem Information and Computer Sciences, 35(4) [1995]).

Claims 1-4 are rejected on the basis that the abstract that is included with this rejection has parsing in the title as well as a description of automatic stereochemistry and thus anticipates the instant invention.

Claims 1-4 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Ecker et al. (P/N 5,874,564).

The Ecker et al. patent deals with RNA as a representation or name (See definition 3 of a name as given in the Webster's Dictionary) and thus anticipates the "chemical name" portion of the instant application. Ecker et al. parses the RNA sequence as a name and evaluates it separately for hybridization in order to result in the computer calculation of the folded 2D structure shown in Figure 4. Therefore Ecker et al. anticipates the instant claims.

The ChemDraw reference is cited on the enclosed PTO Form 892 as being of interest in disclosing chemical name to structure conversion.

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This application contains an appendix consisting of a computer program listing of no more than ten (10) pages. In accordance with 37 CFR 1.96(b), a computer program listing contained on ten (10) pages or less, must be submitted either as drawings or as part of the specification. Accordingly, applicant is required to cancel the appendix and either incorporate such listing in a drawing in compliance with 37 CFR 1.84 (identifying each page as a separate figure), or insert the computer program listing in the descriptive portion of the specification. If the listing is submitted as part of the specification, it must appear after the detailed description of the invention but before the claims and must be in the form of direct printouts from a computer's printer with dark solid black letters not less than 0.21 cm. high, on white, unshaded and unlined paper. The sheets should be submitted in a protective cover. See 37 CFR 1.96(b)(2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy Hartter whose telephone number is (703) 305-1696. The examiner can normally be reached on Monday through Friday from 8 to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, can be reached on (703) 308-4028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Patent Analyst, Tina Plunkett, whose telephone number is (703) 305-3524, or to the Technical Center receptionist whose telephone number is (703) 308-0196. The fax number for the organization where this application or proceeding is assigned are (703) 308-4242 or (703) 305-3014.

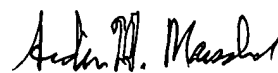
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AJH

March 15, 2001



ARDIN H. MARSCHEL  
PRIMARY EXAMINER